



EDB/EDC Series

All Digital AC Servo Systems



ESTUN
Drive your success

Company Profile

As a US-based manufacturer with facility in Nanjing, China, Estun Automation is devoted to R&D, manufacturing and sales of high-end products in the realm of motion control with completely self-owned IPR technology of AC servo systems which are widely applied in CNC machine, textile machine, packaging machine, printing machine, wood processing machine and automatization production line etc. Till now, Estun Automation has established long-term strategic partnership with many prestigious and professional sales agents and become first cooperation option for many machine manufacturers home and abroad.



NanJing City

With a history more than 6,000 years, Nanjing is the capital of Jiangsu Province and a modern city in China. If we were to regard Jiangsu as a country, it would be ranked No.40 concerning GDP in the world.

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Typical Connection Example



GuLou Square

As the biggest square in Nanjing, Gulou Square lies in the downtown city accompanied with a 455,000 square meters garden. Townspeople love gathering around to have a rest, talk or body exercise at leisure time.

EDB Series Servo Drive

EDC Series Servo Drive



With a power range from 200w to 5Kw, EDB series is designed to meet general purpose applications. Mature servo software control technology and hardware design lead to high performance. Features include high overload capacity, auto disturbance rejection, control flexibility, single axis positioning, windows-based

EDC series is designed for lower cost applications with step and direction control. Composing software by C language ensures high responsiveness. A palm operator is necessary to set, change or monitor the parameters. EDC series has 8-node build-in positioning points, windows-based software and RS232/Canopen

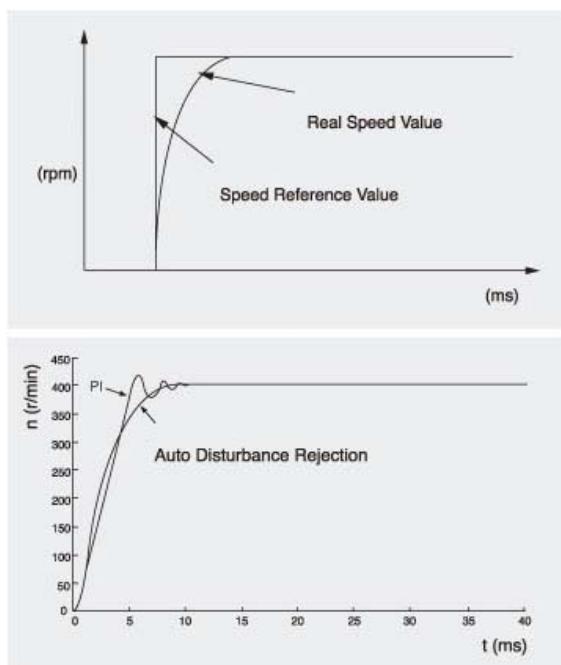
High Overload Capacity

- Responding performance greatly improved with new functions like current forward-feed control, acceleration forward-feed control, speed observer and observer etc.,
- Updated with control mode switch function, effectively reduce overshoot and adjustment time by setting appropriate switch function.

High Overload Capacity

EDB/EDC servo drive utilizes larger capacity industrial grade intelligent power modules (IPM) than normal servo with the same power capacity. Therefore, they have stronger overload capacity, higher disturbance rejection capacity and larger startup torque. The servo drives assure three times overload capacity for types below 1.5Kw at rated speed and 2.5 times above 2Kw.

Auto Disturbance Rejection



The most updated high speed DSP is used to meet the control requirements of high speed, high precision servo. With its auto disturbance rejection control and speed observation control algorithm, combined with compensation servo delay's forward-feedback control, reference smoothing technique, the servo drives have much better dynamic features and stabilities than those with conventional PI control. Servo's real fast response, high precision, high speed and high stability are realized. In addition, being equipped with automatic inertia identification, it makes adjustment operations easier.

Communication Interface

ESTUN

Standard CAN bus interfaces are available in EDC series servo which makes it easy to get integrated into a distributed control system. Based on Modbus Protocols of RS485 or RS232 interfaces, the host can be connected up to 32 servos for network control & the transmission distance can reach 1200 meter in maximum(if RS485 interface be used). Besides, the host can also communicate with PLC, DCS, intelligent instruments, touch screen and so on for centralized monitor.

Flexible switching

Position control, speed control and torque control are combined all in one in EDB servo drives. It's available to switch dynamically among different control modes and operation is more convenient and flexible.

Windows-based ESview Computer Software

With special window-based computer software, the following functions are achieved:

➤ Parameter management

Fast and convenient operations to all parameters are available, such as editing, transmission, comparison and initialization.

➤ Monitoring

Real time monitoring of all I/O signals, alarm of the present and history record, and system status etc.

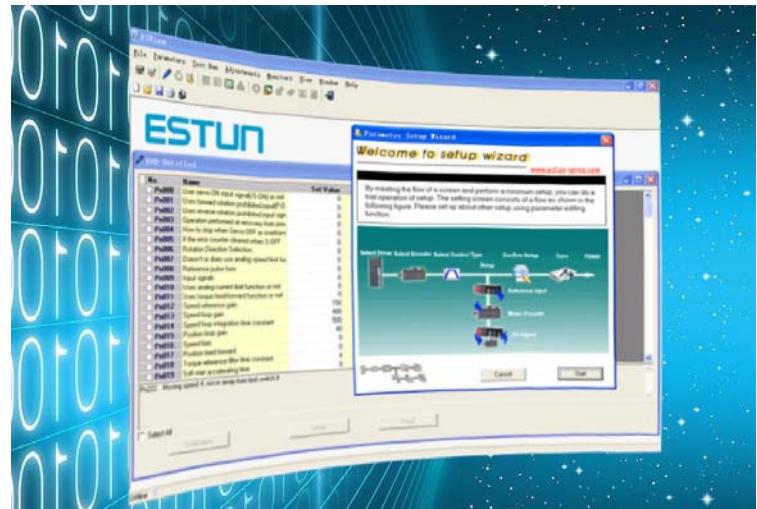
➤ Real time sampling

Real time sampling the curves of speed and torque facilitates the adjustment and analysis.

➤ Adjusting

Fast adjustment of gains is available.

Sample test is available when there is no position or speed reference input.



Single Axis Positioning Function

The 16-node single axis positioning function is built inside the servo drives, and a touch screen can be connected directly to the RS-232 interface on the servo drives, thus the costs go down since an intermediate PLC unit is eliminated. With the touch screen, user may program easily every node's position, speed, acceleration, deceleration time, latency time, start point and stop point, moreover, the above info can be transmitted to the servo drive via RS-232 interface. User may select to program absolute values or incremental values and select cycle run or not. User may also use reference point search function and program the go and back speed for reference point search and in addition, it's also available to use external signals for step changes. Actually user may develop own application programs to meet different demands on different occasions.



EDB/EDC

Series Servo Drive

Model Specification Description

EDC-08

A

P

E

EDC Servo Drive	Rated Power		Power voltage		Control Style		Design Sequence	
	Sign	Specification	Sign	Specification	Sign	Specification	Sign	Specification
	02	200W	A	200VAC	P	Position Control	E	Design Sequence
	04	400W						
	08	750W						

EDB-10

A

M

A

EDB Servo Drive	Rated Power		Power voltage		Control Style		Design Sequence	
	Sign	Specification	Sign	Specification	Sign	Specification	Sign	Specification
	08	750W	A	200VAC	P	Position Control	A	Design Sequence
	10	1KW			M	Position, speed, torque control		
	15	1.5KW						
	20	2KW						
	30	3KW						
	50	5KW						

Model Comparison Table

Servo Motors			EDC/EDB series Servo Drives		
Series		Capacity	Model	Single phase 190~245Vac	Three phase 190~245Vac
Medium Inertia	Small Capacity	EMJ 3000r/min	200w	EMJ-02APA	EDC-02APE
			400w	EMJ-04APA	EDC-04APE
			750w	EMJ-08APA	EDC-08APE EDB-08A□A
			1000W	EMJ-10APA	EDB-10A□A
	Medium Capacity	EMG 2000r/min	1.0kW	EMG-10A□	EDB-10A□A
			1.5kW	EMG-15A□	EDB-15A□A
			2.0kW	EMG-20A□	EDB-20A□A
			3.0kW	EMG-30A□	EDB-30A□A
			5.0kW	EMG-50A□	EDB-50A□A
	EML 1000r/min	EML 1000r/min	1.0kW	EML-10A□	EDB-10A□A
			2.0kW	EML-20A□	EDB-20A□A
			3.0kW	EML-30A□	EDB-30A□A
			4.0kW	EML-40A□	EDB-50A□A

Model Comparison Table

Servo Drive	Servo Motor	Power Cable Model	Encoder Cable Model	Communication Cable Model	Palm Operator
EDC-02APE	EMJ-02APA				
EDC-04APE	EMJ-04APA	CDM-JB18	CMP-JB26	CSC-CC24A	OP-01A
EDC-08APE	EMJ-08APA				
EDB-08A□□	EMJ-08APA				
EDB-10A□□	EMJ-10APA	BDM-JB18	BMP-JB24		
EDB-10A□□	EMG-10APA	BDM-GA16			
EDB-15A□□	EMG-15APA				
EDB-20A□□	EMG-20APA	BDM-GA14			
EDB-30A□□	EMG-30APA	BDM-GD12		BSC-CC24A	-
EDB-50A□□	EMG-50APA	BDM-GD12	BMP-GA24		
EDB-10A□□	EML-10APA	BDM-GA16			
EDB-20A□□	EML-20APA	BDM-GD14			
EDB-30A□□	EML-30APA	BDM-GD12			
EDB-50A□□	EML-40APA				

Technical Specification of Servo Drives

Servo Drive Model		EDB Series	EDC Series
Basic Data	Power Supply	Single/Three Phase AC220V+10-15%,50/60HZ	single Phase AC220V+10-15%,50/60HZ
	Control Mode	SVPWM	SVPWM
	Feedback	8 Cores(Wire saving) Incremental Encoder(2500P/R)	8 Cores(Wire saving) Incremental Encoder(2500P/R)
	Working Condition	Operating/Storage Temperature	0 to +55°C/-20 to +85°C
		Operating/Storage Humidity	90% RH or less(no condensation)
		Shock/Vibration Resistance	4.9m/s ² / 19.6m/s ²
	Structure	Base-mounted	Base-mounted
	Speed Control Range	1: 5000	1: 5000
Speed Control Mode	Speed Regulation	Load Regulation	0 to 100% load: $\pm 0.01\%$ max
		Voltage Regulation	Rated voltage $\pm 10\%$: 0%(at rated speed)
		Temperature Regulation	25 $\pm 25^\circ\text{C}$: $\pm 0.1\%$ max. (at rated speed)
	Frequency Characteristics with workload		300HZ(JL \leq JM)
	Software Startup Time setting		0-10s(Set Acceleration and Deceleration Individually)
	Speed Ref.Input	Reference Voltage	$\pm 10\text{V DC}$
		Input Resistance	40k Ω
		Loop Time Constant	47 μs
	Torque Ref.Input	Reference Voltage	$\pm 10\text{V DC}$
		Input Resistance	40k Ω
		Loop Time Constant	47 μs
	Node Speed Reference	Reverse Rotation Direction Selection	Use P-CON Signal
		Speed Selection	Use FWD/REV current limit signal (select speed 1-3),when both not OFF,select Stop or other control mode
Position Control Mode	Reference Pulse	Type	SIGN+PULSE Train,Sin.Pulse Phase A and Phase B, CCW+CW Pulse Train
		Pulse Buffer	Line Driving(+5V Level).Open Collector
		Pulse Frequency	Maxi.500Kpps(Difference)/200Kpps(Collector)
			Maxi.500Kpps(Difference)/200Kpps(Collector)

Technical Specification of Servo Drives

Servo Drive Model		EDB Series	EDC Series
Position Control Mode	Control Signal	clear	Clear
	Offset Setting	0-300r/min(Set Resolution as 1r/min)	—
	Feed Forward Compensation	0-100%(Set Resolution as 1%)	—
	In position Error Setting	0-500 Reference Unit(Set resolution as 1 reference unit)	—
I/O Signals	Position Output	Output Signal	Phase A,Phase B and Phase C;Line Driving Output
		Dividing Ratio	(1-2500)/2500
	Sequence Control Input	Servo ON,Propotional Control or ControlMode Switch,Forward Run Prohibited,Reverse Run Prohibited,Alarm Reset,FWD Torque External Limit,REV Torque External Limit,Zero Clamp Signal	Servo On,Alarm Reset,Error Counter,Clear Signal,Zero Clamp Signal
Built-in Function	Sequence Control Output	Servo Alarm,Servo Ready,Positioning Complete(Speed Coincidence),Brake Release,Limiting Torque,Motor Run Detection	Servo Alarm,Positioning Complete(Speed Coincidence),Brake Release,Limiting Torque
	COM Function	With RS485 interface for communication. With host controller's special software,parameter setting,run operation and status display can be done in Windows mode.Compatible with Modbus com protocol and CANopen protocol.	With RS485 interface for communication. With host controller's special software,parameter setting,run operation and status display can be done in Windows mode.Compatible with Modbus com protocol and CANopen protocol.
	LED Display	Charge,Power,Five 7-segment LEDs and 4 Pushbuttons(Digital Operation Panel)	Charge,Power&ALM Indicator,Five 7 Segment Tube(On Handheld Operator)
Built-in Function	Braking	Dynamic Brake,Overtravel Protection	Dynamic Brake
	Protection	Overcurrent,Overload,Overspeed ,Under Voltage,Overvoltage,Encoder Error,Parameter Error,etc.	IPM Power Module Error,Overload,Overspeed,Voltage Error,Position Error,Counter Overflow,Encoder Disconnected,Parameter Damaged,etc.
	Regeneration Treatment Function	Built in Regenerative Resistance	—
	Other	Zero Clamp, 16 internal Position Nodes.	—

EMJ

Series Servo Motor

Features

- Medium inertia
- Peak torque up to 300% of rated torque
- Various models (200w~1000w, with brake, etc.,)
- Run at speed of up to 4500r/min
- Equipped with wire-saving encoder(2500P/R)

Applications

- SMM(surface mounting machine)
- PCB puncher machine
- Robot arm
- Handing machine
- Foodstuff processing machine
- Textile machine



Model Specification Description

EMJ- 08**A****P****A****1****1**EMJ Model
Servo Motor

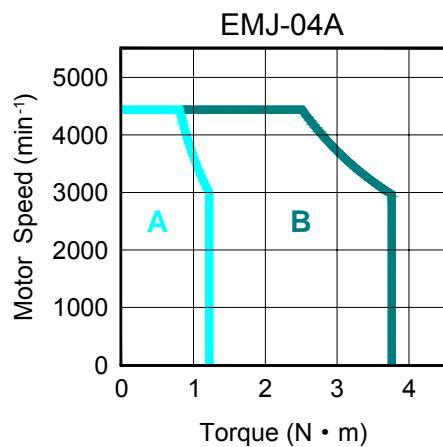
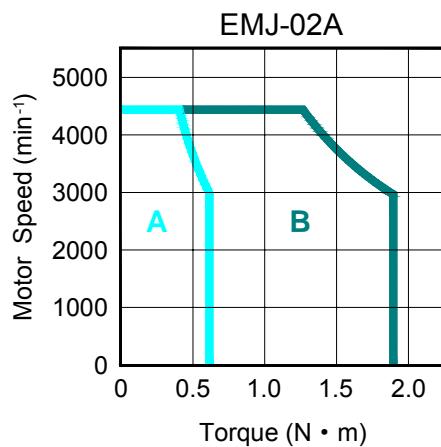
EMJ Model Servo Motor	Rated Power		Power Voltage		Encoder		Design Sequence	Shaft End	Optional Parts	
	Sign	Spec.	Sign	Spec.	Sign	Spec.			Sign	Spec.
	2	200W	A	200Vac	P	2500P/R			1	Flat, without keys
	4	400W							2	Flat, with keys, with screw thread
	8	750W							3	With brake (DC24V)
	10	1000W							4	With oil seal, with brake (DC24V)

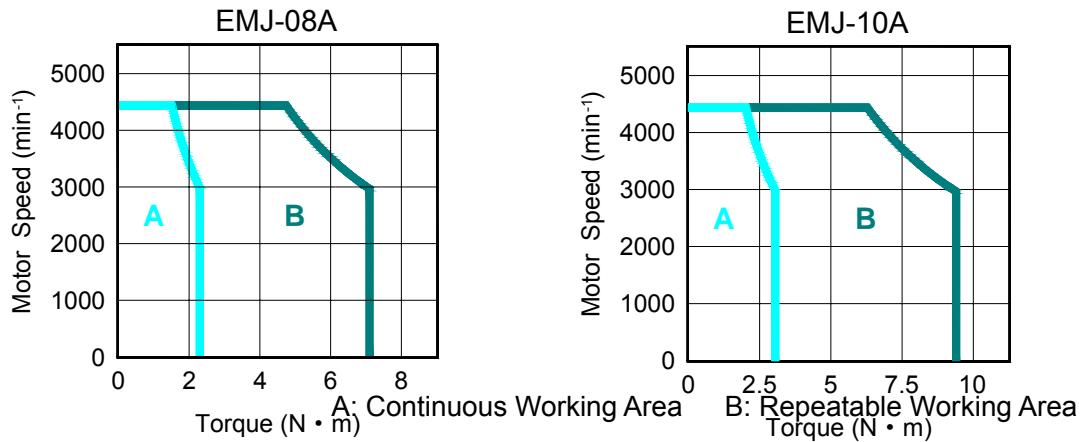
Rated Value and Specification

Voltage		200VAC			
Servo motor type	EMJ-	02A	04A	08A	10A
Rated output power	W	200	400	750	1000
Rated torque	N.m	0.64	1.27	2.40	3.18
Instantaneous peak torque	N.m	1.92	3.82	7.16	9.55
Rated current	Arms	1.3	2.7	4.0	5.3
Instantaneous peak current	Arms	3.9	8.1	12.0	15.9
Rated rotated speed	min ⁻¹	3000			
The highest rotated speed	min ⁻¹	4500			
Rotator rotated inertia	x10 ⁻⁴ kg/m ²	0.19(0.23)	0.31(0.35)	1.35(1.47)	1.74(1.87)
Encoder	Standard	Incremental wire-saving type: 2500P/R			
Heat endurance level		F			
Environment temperature		0 to +40°C (Non-iced)			
Environment humidity		20 to 80% RH (No dew)			
Protection method		All-closed, self-cool, IP65 (Except output shaft and connector)			
Anti-vibration performance		49m/s ²			

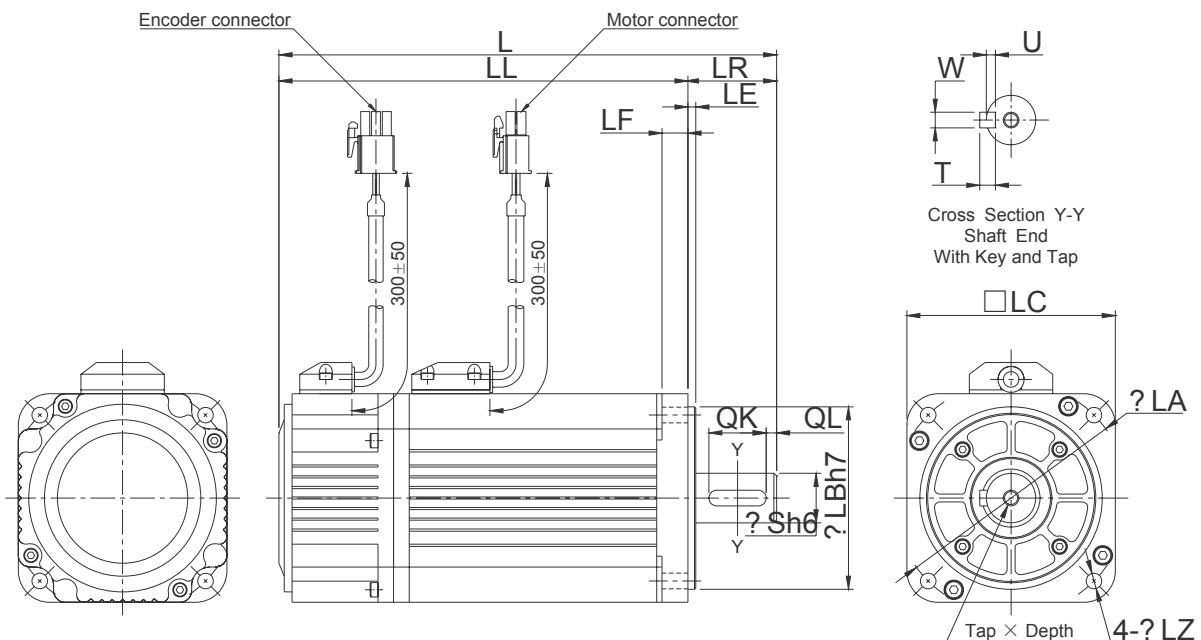
(Note): The values in parentheses are for servo motors with holding brakes.

Torque-Speed Feature





Dimension



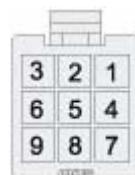
Model EMJ-	L	LL	Flange face						S	Tap×Depth	Key					
			LR	LE	LF	LC	LA	LB			QK	QL	W	T	U	
02A	153	123	30	3	6	60	70	50	5.5	14	M5x10L	16	4	5	5	3
04A	173	143	30	3	6	60	70	50	5.5	14	M5x10L	16	4	5	5	3
08A	191	156	35	3	9	80	90	70	6	19	M6x15L	22	4	6	6	3.5
10A	211	176	35	3	9	80	90	70	6	19	M6x15L	22	4	6	6	3.5



➤ **Motor connector specification**

- Plug: 172167-1 (AMP)
- Pin: 170360-1 (AMP)

Pin No.	Signal	Color
1	U phase	Red
2	V phase	Blue
3	W phase	White
4	FG	Green/yellow



➤ **Encoder connector specification**

- Plug: 172169-1 (AMP)
- Pin: 170359-3 (AMP)

Pin No.	Signal	Color
1	A+	Blue
2	B+	Green
3	C+	Yellow
4	A-	Blue/Black
5	B-	Green/Black
6	C-	Yellow/Black
7	PG5V	Red
8	PG0V	Black
9	FG	Shield



➤ **Brake Connector Specifications**

- Plug: 172165-1(AMP)
- Pin: 170360-1(AMP)

Pin No.	Signal	Color
1	B1	Blue
2	B2	White

EMG

Series Servo Motor

Features

- Be used to drive the feed shaft of various machine
 - Various products(1.0KW ~5.0KW, with brake etc.)
 - Equipped with wire-saving encoder(2500P/R)
 - Standard configuration is IP65

Applications

- Machine tools
 - Handling machine
 - Foodstuff processing machine
 - Textile machine



Model Specification Description

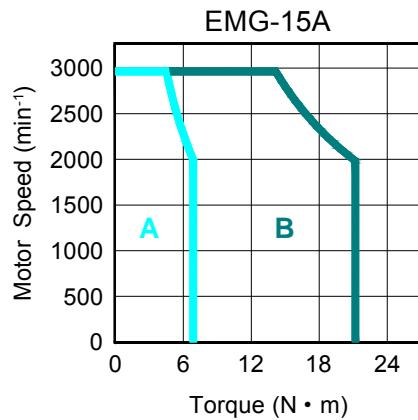
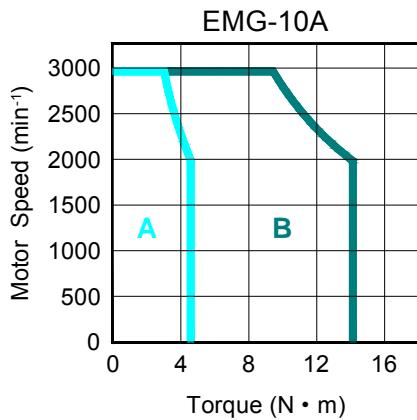
EMG- 10 A P A 1 1

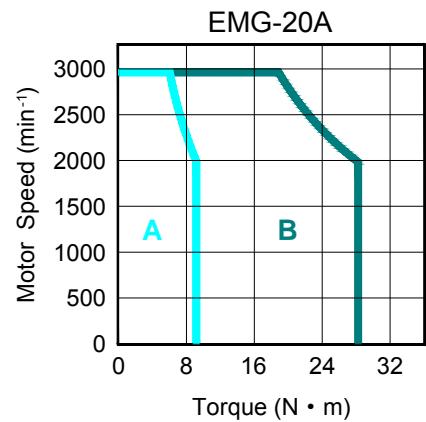
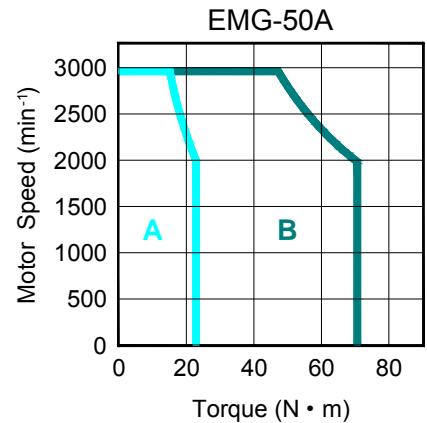
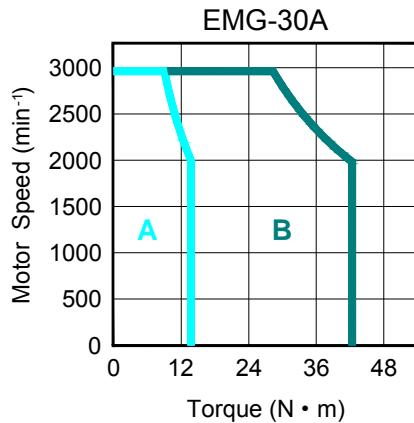
Rated Value and Specification

Voltage		200VAC									
Motor type	EMG-	10A	15A	20A	30A	50A					
Rated output power	kW	1.0	1.5	2.0	3.0	5.0					
Rated torque	N.m	4.78	7.16	9.55	14.3	23.9					
Instantaneous peak torque	N.m	14.3	21.5	28.7	43	71.6					
Rated current	Arms	6.0	9.0	12.0	18.0	28					
Instantaneous peak current	Arms	18.0	27.0	36.0	54.0	84					
Rated rotated speed	min ⁻¹	2000									
Peak rotated speed	min ⁻¹	3000									
Rotator rotated inertia	x10 ⁻⁴ kg/m ²	10(10.6)	14.5(15.1)	19.0(19.6)	41.3(44.5)	65.7(68.9)					
Feedback unit	Standard	Incremental cable-saved type: 2500P/R									
Heat-endurance level	F										
Environment humidity temperature	0 to +40°C (Non-iced)										
Environment humidity	20 to 80% RH (No dew)										
Protection method	All-closed, Self-cooled, IP65 (Except output shaft and connector)										
Anti-vibration performance	24.5m/s ²										

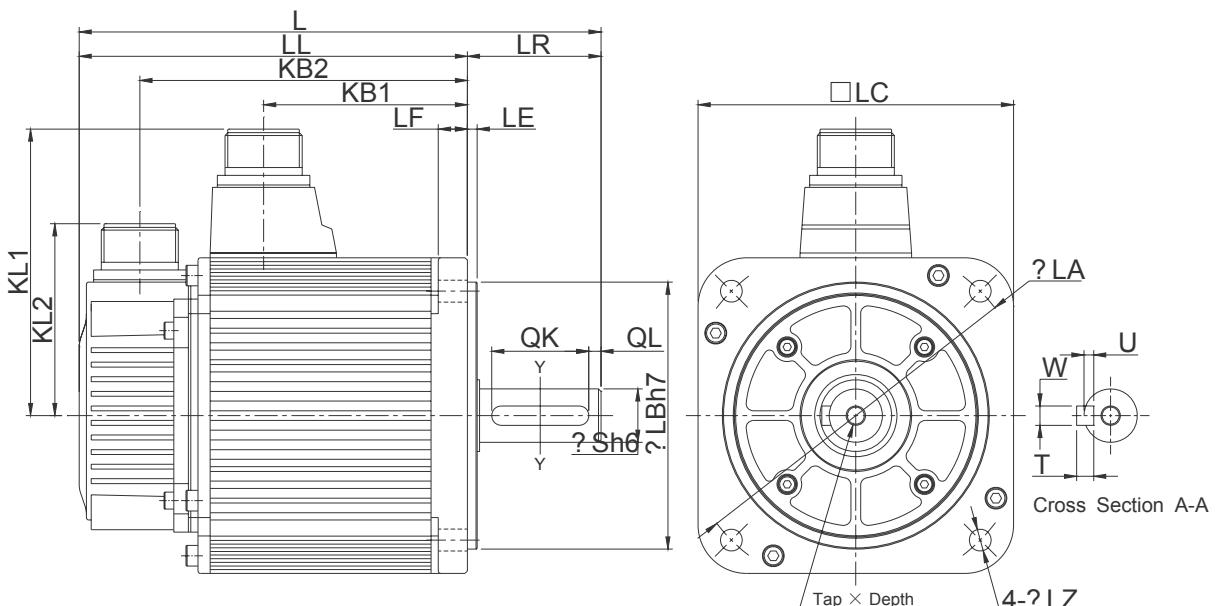
(Note): The values in parentheses are for servo motors with holding brakes.

Torque-Speed Feature





Dimension



Model EMG-	L	LL	KB1	KB2	KL1	KL2	Flange face						S	Tap×Depth	Key					
							LR	LE	LF	LC	LA	LB			QK	QL	W	T	U	
10A	215	160	84	135	118	79	55	4	12	130	145	110	9	22	M6x20L	40	5	8	7	4
15A	240	185	109	160	118	79	55	4	12	130	145	110	9	22	M6x20L	40	5	8	7	4
20A	265	210	134	185	118	79	55	4	12	130	145	110	9	22	M6x20L	40	5	8	7	4
30A	307	228	143	203	140	79	79	3.2	18	180	200	114.3	13.5	35	M8x16L	55	6	10	8	5
50A	347	268	183	243	140	79	79	3.2	18	180	200	114.3	13.5	35	M8x16L	55	6	10	8	5



➤ **Motor connector specification**

- Plug: MS3108B20-4S(LC=130), MS3108B22-22S(LC=180)
- Receptacle: MS3102A20-4P(LC=130), MS3102A22-22P(LC=180)
- Cable Clamp: MS3057-12A

Pin No.	Signal
A	U phase
B	V phase
C	W phase
D	FG



➤ **Encoder connector specification**

- Plug: MS3108B20-29S
- Receptacle: MS3102A20-29P
- Cable Clamp: MS3057-12A

Pin No.	Signal	Color
A	A+	Blue
B	A -	Blue/Black
C	B+	Green/Black
D	B -	Green
E	C+	Yellow
F	C -	Yellow/Black
G	PG0V	Black
H	PG5V	Red
J	FG	Shield



➤ **Brake Connector Specifications**

- Plug: MS3106A10SL-3S
- Receptacle: MS3102A10SL-3P
- Cable Clamp: MS3057-4A

Pin No.	Signal
A	B1
B	B2
C	-

EML

Series Servo Motor

Features

- Be used to drive the feed shaft of various machine
 - Various products(1.0KW ~4.0KW, with brake etc.)
 - Equipped with wire-saving encoder(2500P/R)
 - Standard configuration is IP65

Applications

- Machine tools
 - Handling machine
 - Foodstuff processing machine
 - Textile machine



Model Specification Description

EML- 10 A P A 1 1

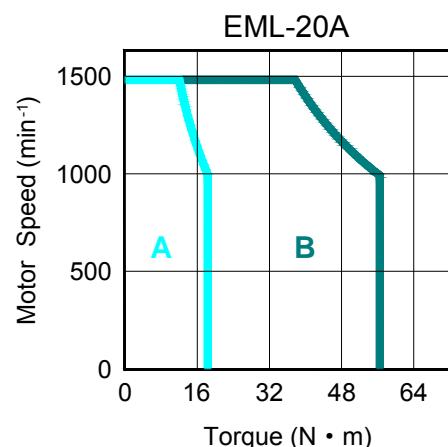
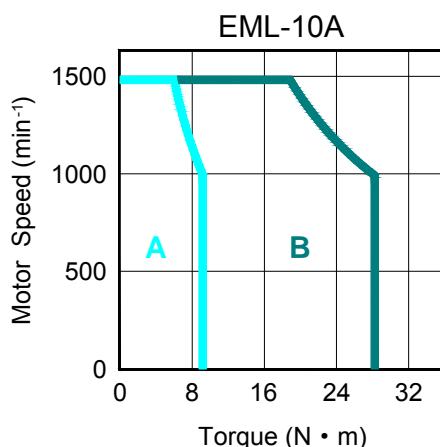
EML Model Servo Motor	Rated Power		Power Voltage		Encoder		Design Sequence		Shaft End		Optional Parts	
	Sign	Spec.	Sign	Spec.	Sign	Spec.	Sign	Spec.	Sign	Spec.	Sign	Spec.
10	1.0KW	A	200Vac	P	2500P/R	A	Design Sequence	1	Flat, without keys	1	None	
15	1.5KW							2	Flat, with keys, with screw thread	2	With Oil Seal	
20	2.0KW							3		3	With brake (DC24V)	
30	3.0KW											With oil seal, with brake (DC24V)
40	4.0KW							4				

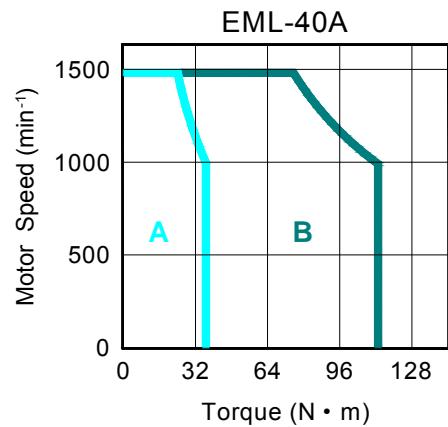
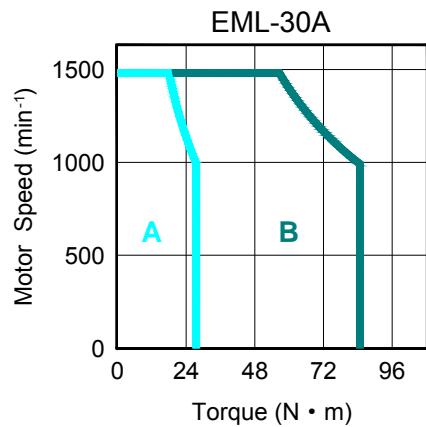
Rated Value and Specification

Voltage		200VAC			
Servo motor type	EML -	10A	20A	30A	40A
Rated output power	kW	1.0	2.0	3.0	4.0
Rated torque	N.m	9.55	19.1	28.7	38.2
Instantaneous peak torque	N.m	28.7	57.3	86.0	114.6
Rated current	Arms	6.0	12.0	18.0	24.0
Instantaneous peak current	Arms	18.0	36.0	54.0	72.0
Rated rotated speed	min ⁻¹			1000	
The highest rotated speed	min ⁻¹			1500	
Rotator rotated inertia	x10 ⁻⁴ kg /m ²	19(19.6)	53.5(56.7)	77.8(81.0)	102.2(105.4)
Feedback unit	Standard	Incremental cable-saved type : 2500P/R			
Heat endurance level		F			
Environment temperature		0 to + 40 C (Non-iced)			
Environment humidity		20 to 80% RH (No dew)			
Protection method		All-closed , self-cool , IP65 (Except output shaft and connector)			
Anti-vibration performance		24.5m /s ²			

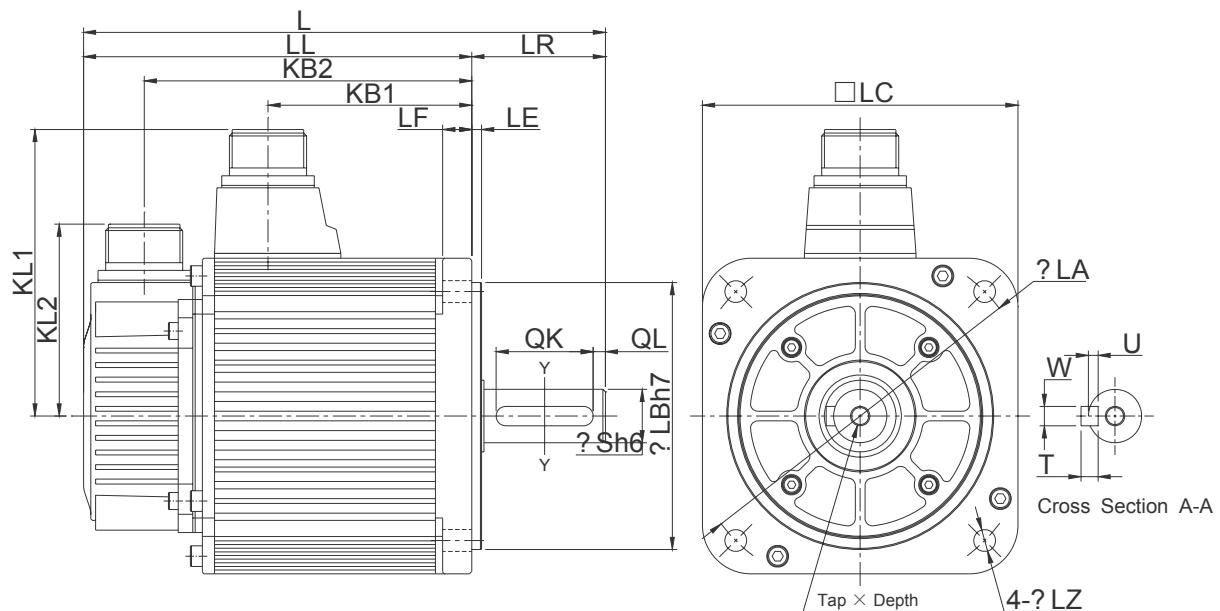
(Note): The values in parentheses are for servo motors with holding brakes.

Torque-Speed Feature





Dimension



Model EML-	L	LL	KB1	KB2	KL1	KL2	Flange face						S	Tap×De pth	key					
							LR	LE	LF	LC	LA	LB	LZ		QK	QL	W	T	U	
10A	265	210	134	185	118	79	55	4	12	130	145	110	9	22	M6x20 L	40	5	8	7	4
20A	332	253	168	228	140	79	79	3.2	18	180	200	114	13.5	35	M8x16 L	55	6	1 0	8	5
30A	372	293	208	268	140	79	79	3.2	18	180	200	114	13.5	35	M8x16 L	55	6	1 0	8	5
40A	412	333	248	308	140	79	79	3.2	18	180	200	114	13.5	35	M8x16 L	55	6	1 0	8	5



➤ Motor connector specification

- Plug: MS3108B20-4S(LC=130), MS3108B22-22S(LC=180)
- Receptacle: MS3102A20-4P (LC=130), MS3102A22-22P(LC=180)
- Cable Clamp: MS3057-12A

Pin No.	Signal
A	U phase
B	V phase
C	W phase
D	FG



➤ Encoder connector specification

- Plug: MS3108B20-29S
- Receptacle: MS3102A20-29P
- Cable Clamp: MS3057-12A

Pin No.	Signal	Color
A	A+	Blue
B	A -	Blue/Black
C	B+	Green/Black
D	B -	Green
E	C+	Yellow
F	C -	Yellow/Black
G	PG0V	Black
H	PG5V	Red
J	FG	Shield



➤ Brake Connector Specifications

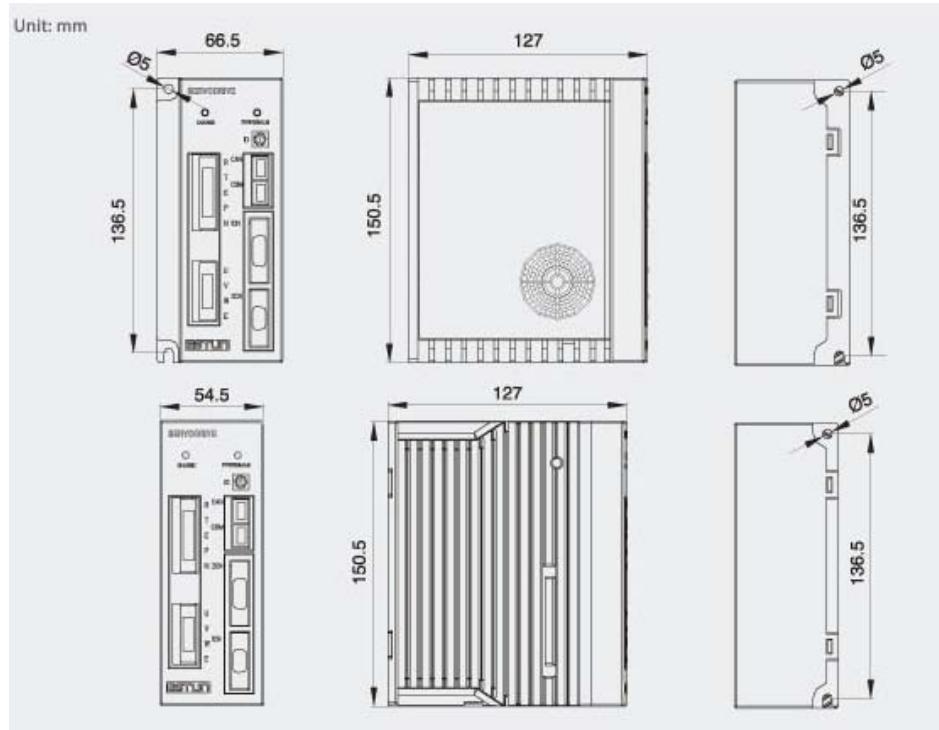
- Plug: MS3106A10SL-3S
- Receptacle: MS3102A10SL-3P
- Cable Clamp: MS3057-4A

Pin No.	Signal
A	B1
B	B2
C	-

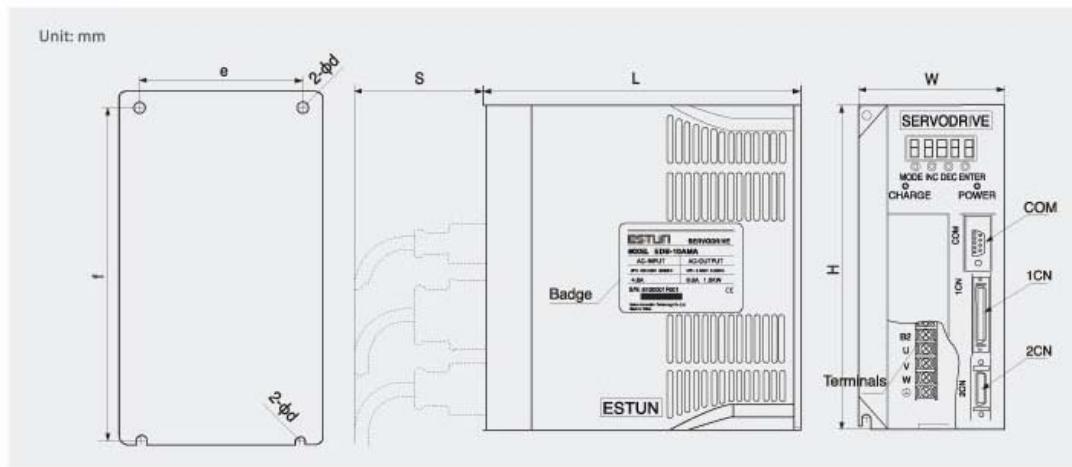
EDB/EDC

Mounting Dimension of Drives

Mounting Dimension of EDC Servo Drives



Mounting Dimension of EDB Servo Drives

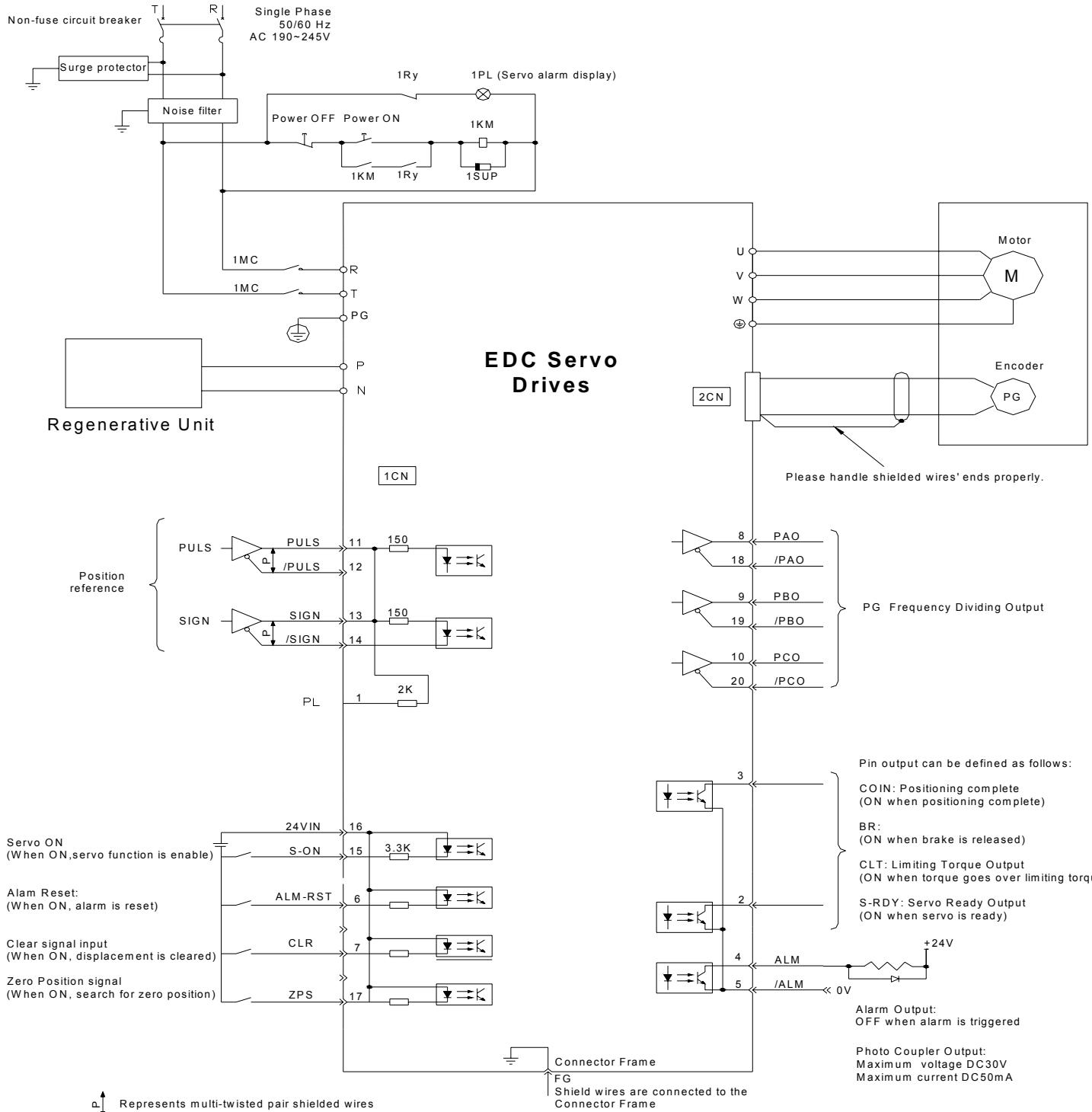


Model	L	W	H	S	e	f	d
EDB-08、EDB-10、EDB-15	185	85	187.5	75	75	177.5	5
EDB-20、EDB-30、EDB-50	207	123	270.5	75	111	258.5	6
EDB ⁺ -08、EDB ⁺ -10、EDB ⁺ -15	180	100	186	75	89	175	5
EDB ⁺ -20、EDB ⁺ -30、EDB ⁺ -50	204.5	125	270.5	75	112	258.5	6

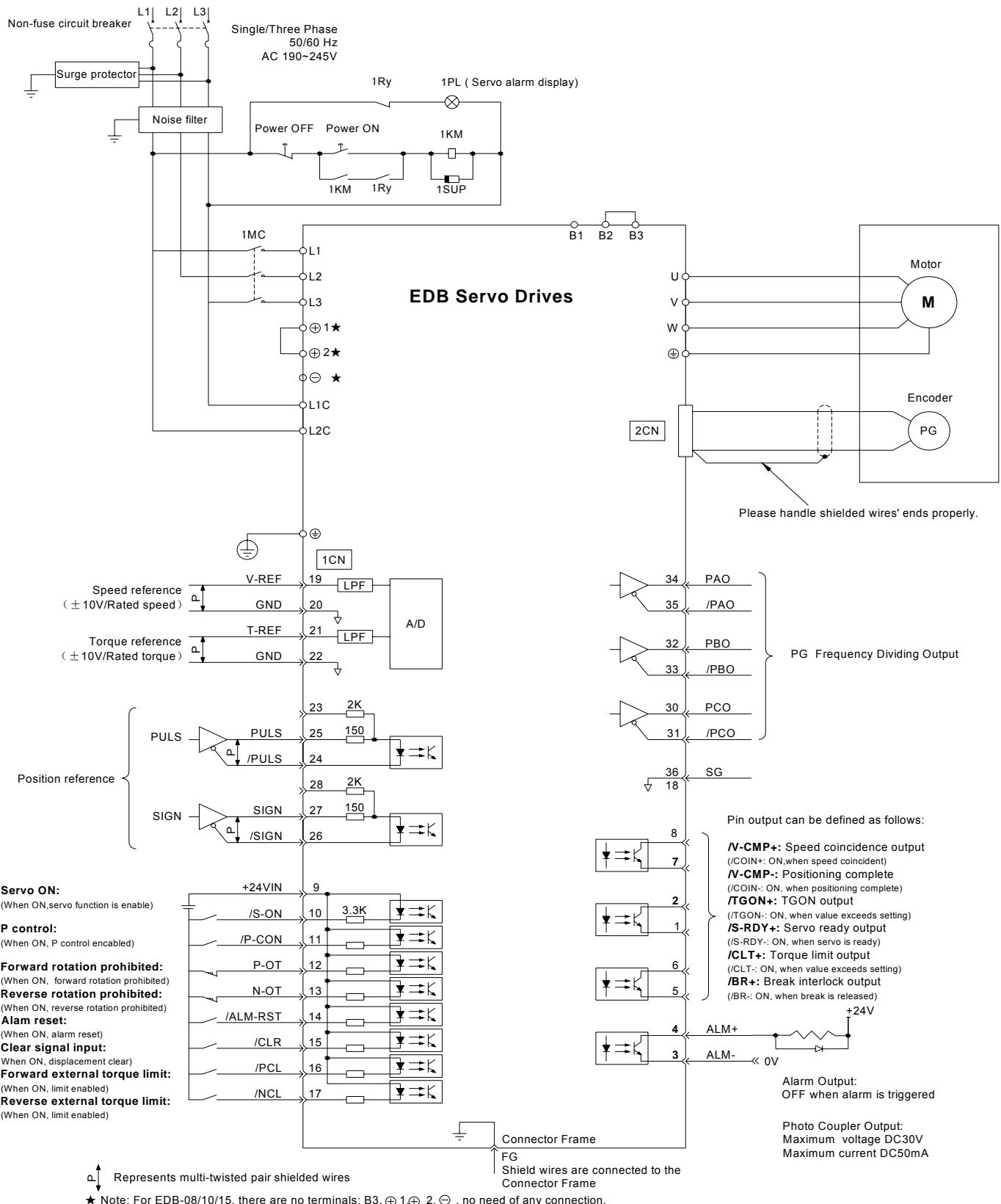
EDB/EDC

Typical Connection Example

Typical Connection Example of EDC Servo



Typical Connection Example of EDB Servo



Mission & Vision

Be Backbone of Industry



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